

RESPONSE TO RESTRICTION REQUIREMENT
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IN THE CLAIMS

1. (Original) A method of forming a damascene structure comprising:
 - (a) providing a substrate having a feature defined through a first dielectric layer formed on a barrier layer comprising one of a silicon carbide (SiC) layer and a silicon carbon nitride (SiCN) layer deposited on a metal wiring layer;
 - (b) generating a plasma from a gas mixture comprising trifluoromethane (CHF₃); and
 - (c) etching the barrier layer using the plasma to transfer the feature therethrough to the metal wiring layer.
2. (Original) The method of claim 1 wherein the first dielectric layer comprises one of organosilicate (SiOC) and fluorosilicate glass (FSG).
3. (Original) The method of claim 1 wherein the gas mixture further comprises one or more gases selected from the group consisting of nitrogen (N₂), oxygen (O₂) and argon (Ar).
4. (Original) The method of claim 3 wherein the gas mixture comprises trifluoromethane (CHF₃) and nitrogen (N₂) at a CHF₃:N₂ flow ratio of 30:50.
5. (Original) The method of claim 3 wherein the gas mixture comprises trifluoromethane (CHF₃) and oxygen (O₂) at a CHF₃:O₂ flow ratio of 30:10.
6. (Original) The method of claim 3 wherein the gas mixture comprises trifluoromethane (CHF₃), oxygen (O₂) and argon (Ar) at a CHF₃:O₂:Ar flow ratio of 30:10:50.

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7. (Currently Amended) A method of forming a damascene structure comprising:

(a) providing a substrate having a feature defined through a first dielectric layer formed on a barrier layer comprising one of a silicon carbide (SiC) layer and a silicon carbon nitride (SiCN) layer deposited on a metal wiring layer;

(b) generating a plasma from a gas mixture comprising trifluoromethane (CHF₃) and one or more gases selected from the group consisting of nitrogen (N₂), oxygen (O₂) and argon (Ar); and

(c) etching the barrier layer using the plasma to transfer the feature therethrough to the metal wiring layer.

8. (Original) The method of claim 7 wherein the first dielectric layer comprises one of organosilicate (SiOC) and fluorosilicate glass (FSG).

9. (Original) The method of claim 7 wherein the gas mixture comprises trifluoromethane (CHF₃) and nitrogen (N₂) at a CHF₃:N₂ flow ratio of 30:50.

10. (Original) The method of claim 7 wherein the gas mixture comprises trifluoromethane (CHF₃) and oxygen (O₂) at a CHF₃:O₂ flow ratio of 30:10.

11. (Original) The method of claim 7 wherein the gas mixture comprises trifluoromethane (CHF₃), oxygen (O₂) and argon (Ar) at a CHF₃:O₂:Ar flow ratio of 30:10:50.

12-17. (Cancelled)